Perinatal and Maternal Mortality Review Committee

He matenga ohorere, he wairua uiui, wairua mutunga-kore

Newsletter

ISSUE 9 December 2012

"He matenga ohorere, he wairua uiui, wairua mutunga-kore" (The grief of sudden, untimely death will never be forgotten.)

Chairperson's Message

The sixth report of the Perinatal and Maternal Mortality Review Committee (PMMRC) was released in June 2012, reporting on both perinatal and maternal mortality and morbidity for 2010.

In this year's report we present the second year of data on potentially avoidable perinatal deaths and five years of data on potentially avoidable maternal deaths. Almost one in five perinatal deaths and one in three maternal deaths were found to be potentially avoidable. The most common contributory factors identified were barriers to accessing and engaging with care, the skills and knowledge of the health care professional and organisational factors such as a lack of protocols.

The report contains new information on perinatal and maternal morbidity. Neonatal encephalopathy data collection will be ongoing with a more comprehensive analysis of two years of data next year. The Australasian Maternity Outcomes Surveillance System (AMOSS) reports the numbers of cases for each condition for the first two years of data collection and further analysis will be reported next year.

In June 2012 we held our fifth annual workshop, 'Beyond the numbers – maternal deaths and neonatal morbidity in 2010' in Wellington, and invited obstetric, midwifery and neonatal experts to critique our report.

Finally thanks once again to everyone who has assisted in the preparation for this report. Thank you to all the lead maternity carers, clinicians and PMMRC local coordinators in each District Health Board (DHB) for all the work that they do to support this data collection. There would be no report without everyone's contribution and cooperation

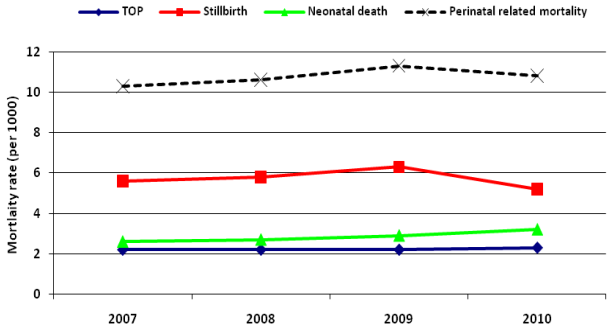
Professor Cindy Farquhar
Chair of the Perinatal and Maternal Morbidity Review Committee

Follow us on **Twitter** @ **PMMRC** for updates on publications and workshops.

PMMRC 6th Annual Report

The PMMRC published its sixth annual report on the deaths of babies and their mothers in New Zealand in June which reports perinatal related mortality in New Zealand for the last four years.

Perinatal related mortality rates 2007- 2010



The key findings following the review of perinatal mortality in 2010 include:

- In 2010 the perinatal related mortality rate was 10.1 per 1000 births and the perinatal related mortality rate was 10.8/1000 births, which represents a small non-significant decrease compared to the previous year.
- Māori and Pacific mothers are more likely to have stillbirths and neonatal deaths compared to New Zealand European and non-Indian Asian mothers.
- Teenage mothers (aged under 20) are at higher risk of stillbirth and neonatal death than mothers aged 20 to 39.
- Nine percent of mothers reported using alcohol, and 3.4 percent reported using marijuana in pregnancy.
- Contributory factors were identified in 27 percent of all perinatal related deaths and 18 percent of all perinatal related deaths were thought to be potentially avoidable deaths.

Recommendations to reduce perinatal mortality include:

- Pregnant women should be given an indication of ideal weight gain in pregnancy according to their body mass index.
- All health professionals who provide care to pregnant women should offer smoking cessation advice.
- If small for gestational age (SGA) is confirmed by ultrasound at term (>37 weeks), timely delivery is recommended.

Perinatal and Maternal Mortality Review Committee
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Newsletter

Maternal mortality

- The maternal mortality ratio for the five-year interval 2006–2010 was 17.8/100,000 maternities. This is significantly higher than the ratio reported by the United Kingdom for the triennium 2006–2008 of 11.4/100,000 maternities.
- Thirty-six percent of maternal deaths in New Zealand from 2006–2010 were considered to be potentially avoidable.
- Maori and Pacific mothers are more likely than New Zealand European mothers to die during pregnancy or in the six weeks postpartum.

The report recommendations to reduce maternal mortality include:

- Pregnant women who are identified with pre-existing medical disease during pregnancy should be referred to appropriate services.
- Termination of pregnancy services should undertake screening for maternal mental health and family violence and provide appropriate support and referral.
- The committee supports the recommendations of the *Healthy Beginnings* report in January 2012, for a comprehensive perinatal and infant mental health service. This includes:
  - Screening and assessment.
  - Timely interventions including case management, transition planning and referrals.
  - Access to respite care and specialist inpatient care for mothers and babies.
  - Consultation and liaison services within the health system and with other agencies, for example, primary care and termination of pregnancy services.

Neonatal encephalopathy mortality and morbidity

Preliminary findings 2010

- In 2010, 82 cases were notified with moderate or severe NE. Fifty-nine infants survived the first 28 days of life. The overall NE rate is 1.26/1000 registered births, this rate is similar to historical published studies.

Recommendations from this initial analysis were:

- Cord gases should be performed on all babies born with an Apgar 7 at one minute.
- If NE is clinically suspected in the immediate hours after birth, early consultation with a neonatal paediatrician is recommended in order to avoid a delay in commencing cooling.
- All babies with moderate or severe NE should undergo a formal neurological examination and have the findings clearly documented prior to discharge.

Australasian Maternity Outcomes Surveillance System (AMOSS)

A summary of the cases in the first two years was reported in the PMMRC 6th Annual Report as follows:

AMOSS conditions reported in New Zealand 2010–2011

AMOSS condition	Cases
Amniotic fluid embolism	6
Antenatal pulmonary embolism	10
Eclampsia	22
Placenta accreta	49*
Peripartum hysterectomy	53*
Influenza (ICU admission)	6
BMI >50	297

*Some of these occurred in the same women.

The full report and presentations from the workshop are now available to download at the Health Quality and Safety Commission website - www.hqsc.govt.nz

Maternal Mortality Review Working Group (MMRWG)

The Maternal Mortality Review Working Group (MMRWG) meets three times a year to review all maternal deaths in New Zealand.

The 6th PMMRC Report provides the first comprehensive report on maternal mortality and presents data on maternal deaths from 2006–2010. Over this five year period there were 57 maternal deaths. The most frequent causes of maternal death in the years 2006–2010 were suicide (13 cases), pre-existing maternal medical conditions (11 cases) and amniotic fluid embolism (9 cases).

The report has explored these three causes of death further in individual reports. The MMRWG expects that AMOSS reports on both morbidity and mortality from amniotic fluid embolism in Australasia should give a wider perspective of this rare condition in the Australian and New Zealand setting.

Please advise your PMMRC Local Coordinator or the PMMRC National Coordinator of any maternal deaths of which you are aware.

(Dr Alastair Haslam)
Chair of Maternal Mortality Working Group

Neonatal Encephalopathy Working Group (NEWG)

The Neonatal Encephalopathy Working Group (NEWG) was established to reduce the morbidity and mortality associated with neonatal encephalopathy (NE).

Neonatal encephalopathy remains a major cause of brain injury in newborn infants, and it is recognised that NE infants are more likely to die around the time of birth (between 10%–60%) and at least 25 percent of survivors will have long-term neurological problems such as cerebral palsy, neurodevelopmental delay, visual or hearing impairments and seizures.

The PMMRC reports that neurological conditions, most frequently peripartum hypoxic insult, are the third most common neonatal cause of death. The aim of the NE project is to determine local rates, report clinical associations, examine preventability and describe the clinical course and neonatal outcomes for affected infants. In the 6th PMMRC report we have presented the preliminary findings from the first year of data in 2010.

Full analysis is currently underway for the first two years of data. Ethics approval has been given and data collection continues in 2012.

Thank you for your ongoing efforts in notifying and providing data on infants with NE. It is hoped this work will lead to the development and implementation of effective preventative and treatment therapies to improve outcomes for infants and their families in our care.

The full report and further information on NEWG can be found on the PMMRC's website:
http://www.hqsc.govt.nz/our-programmes/mrc/pmmrc

(Dr Malcolm Battin)
Chair of NE Working Group

Australasian Maternity Outcomes Surveillance System Working Group (AMOSSWG)

The Australasian Outcomes Surveillance System has now completed two full years of data collection on severe and rare disorders of pregnancy across almost 300 maternity units in New Zealand and Australia.

In New Zealand, data collection has been completed for Influenza A requiring intensive care admission, eclampsia and extreme morbid obesity (BMI >50). We will cease data collection on peripartum hysterectomy and placenta accreta/increta/percreta at the end of 2012.

AMOSS Surveys in 2013:

- Amniotic fluid embolism
- Antenatal pulmonary embolism
- Rheumatic Heart Disease (RHD)
- Gestational breast cancer
- Vasa praevia

Rheumatic Heart Disease

Data collection for the AMOSS study of women with rheumatic heart disease (RHD) started on October 2012. Inclusion criteria for the study are pregnant women with confirmed RHD, diagnosed either prior to or during the current pregnancy. We would like to include women irrespective of pregnancy outcome – live birth, miscarriage etc.

In New Zealand, we have appointed Faith Mahony to the position of Research Coordinator for the RHD study, a position funded by an HRC Emerging Researcher Grant. Faith is based at National Women's Health, Auckland City Hospital. In contrast to other AMOSS studies, Faith will be responsible for all of the data entry for women in the RHD study – cases and controls. Faith can be contacted at FaithMa@adhb.govt.nz

Gestational Breast Cancer

The gestational breast cancer study is also at an advanced stage in planning and we will keep you posted about progress with this study.

Future surveys include:

- Selected admission to ICU
- Massive transfusion

We look forward to the detailed analysis of the completed conditions and hope to have the results available for publication in 2013. A number of original articles taken from the AMOSS study data have been published, including a comparison of admissions to intensive care units in women with H1N1 influenza A in the UK.

Further information on AMOSS can be found on the AMOSS website: http://www.amoss.co.nz

(Dr Claire McLintock)
Chair of AMOSS Working Group

PMMRC Annual Workshop 2012

The PMMRC Annual Workshop was held at Te Papa in Wellington in June 2012. The workshop is an opportunity to present the findings from the PMMRC annual report and have the report externally critiqued.

Workshop topics this year were:

- Understanding potentially avoidable deaths and approaches to prevent them.
- Midwifery challenges in preventing maternal mortality.
- Interventions to prevent maternal deaths.
- Neonatal encephalopathy.

The keynote speakers were:

- Dr Jeanie Cheong: Honorary Fellow, University of Melbourne
- Dr Judith McAra Couper: Lecturer in Midwifery, Auckland University of Technology
- Professor Julie Quinlivan: Professor of Obstetrics & Gynaecology, University of Notre Dame (Australia)

This was a very successful day with over 200 attendees including midwives, nurses, obstetricians, paediatricians, health administrators and consumers.

The presentations from the day can be found on the PMMRC website: http://www.hqsc.govt.nz/our-programmes/mrc/pmmrc

Audit of deaths due to congenital abnormalities

In a project funded by the Health Quality and Safety Commission (HQSC) the PMMRC undertook an audit to evaluate whether we can reduce the number of perinatal deaths due to congenital abnormalities. We reviewed the notes for all babies in the 2010 PMMRC dataset who had a Perinatal Death Classification (PDC) for cause of death of central nervous system, cardiovascular system or chromosomal abnormality.

Key findings from the audit of deaths due to congenital abnormalities include:

- One hundred and thirty seven perinatal deaths in 2010 were identified as due to central nervous system (35), cardiovascular system (29) or chromosomal abnormality (73).
- First contact with a health professional in pregnancy was with a general practitioner in a majority of cases.
- First contact occurred within ten weeks in 74% of cases and within 14 weeks in 85%. However there was often a significant delay before booking with a lead maternity carer (LMC).
- Folate supplements were recorded as taken by 54% of women in the antenatal period and by 7% prior to pregnancy.
- First or second trimester screening was offered to 75% of the women who presented prior to the cut off for screening.
- Of those women offered screening 84% had some form of screening.
- The time from referral to review by a maternal fetal medicine specialist was a median of six days, which is less than the week that is advised by the Maternal Fetal Medicine Network.
- The time from decision for termination of pregnancy to the procedure was between one and 12 days with a median of two days.
- Review of ultrasound images found some of the abnormalities could have been detected earlier.

Conclusions from the audit of deaths due to congenital abnormalities

The importance of pre-conceptual folate is probably not fully appreciated by women or primary care providers.

Presentation for care was not a significant contributor to late detection, but failure to offer screening at first presentation to a health care professional or to uptake screening was responsible for the delay in diagnosis of screen detectable abnormalities.

Although there are multiple steps in the pregnancy pathway after an abnormality is suspected, these did not appear to cause significant delay.

We should consider the benefits of using a variety of algorithms in the screening programme to aid detection of a wider variety of chromosomal abnormalities.

The full report can be found on the HQSC website: **http://www.hqsc.govt.nz/assets/Other-Topics/QS-challenge-reports/Detecting-abnormalities-earlier-in-pregnancy-Final-Report.pdf**

PMMRC membership

The PMMRC was initially established in 2005. Over time the membership of the committee has changed. The current membership includes the following:

- Professor Cynthia Farquhar (Chair), obstetrician and gynaecologist and clinical epidemiologist, University of Auckland
- Dr Sue Belgrave, Obstetrician & Gynaecologist, Clinical Director of Obstetrics, Waitemata DHB
- Ms Sue Bree, midwife, Bay of Islands
- Dr Sue Cringle, senior lecturer (medical), University of Auckland
- Ms Alison Eddy, midwife, professional projects advisor, Christchurch
- Dr Beverley Lawton, GP, researcher and director of Women's Health Research Centre, Wellington
- Dr Maggie Meeks, neonatologist, Canterbury DHB
- Ms Gail McIver, midwife, clinical risk management coordinator for women's health at Counties-Manukau DHB
- Ms Linda Pennlington, Sands New Zealand, Wellington
- Dr Graham Sharpe, anaesthetist, Capital and Coast DHB.

Gail McIver, new member of the PMMRC introduces herself:

My name is Gail McIver and I am new to the PMMRC national committee and a new member of the Neonatal Encephalopathy working group.

I trained as a Registered Comprehensive Nurse at the Taranaki Polytechnic in 1988 and following my training worked at New Plymouth Base Hospital. In 1994, I completed a diploma of Midwifery at Auckland Institute of Technology via its first satellite programme in conjunction with Taranaki District Health Board. The satellite programme came from my determination to train as a midwife and an open day held at AIT. From sheer determination and enthusiasm for the training, I soon had the two institutions talking and from there the first satellite programme began and I'm proud to say, still running today.

Having started my midwifery career in New Plymouth by 1997 my husband, son and I moved to Auckland. I soon had permanent employment at Counties Manukua District Health Board and have stayed since. I initially worked at Papakura Maternity Unit then transferred to Middlemore Hospital Delivery Suite. I quickly accumulated a wide variety of clinical experience and before I knew it project and management roles were also offered.

For the past 3 years I worked as Clinical Risk Management Coordinator for Women's Health. The role involved reviewing clinical events, morbidity and mortality, from this the second part of my role develops, quality. I often reflect on what keeps me at Counties Manukau Health (Counties Manukau District Health Board). The great staff I work with, cultural diversity of its people in the community and the support from management to make a difference.

I have recently moved from the Clinical Risk role and have taken on the position of Midwife Manager in the Assessment Labour and Birthing Unit at Middlemore Hospital.

I feel very honoured to be asked to be part of the PMMRC committee and the Neonatal Encephalopathy working group. I look forward to working with these two groups over the next three years.

Gail McIver

Linda Penlington, new member of the PMMRC provides an update from Sands:

Sands

Sands New Zealand is now in its 26th year. In 1986, Rosemary Williams (now Westerley) gave birth to her daughter Holly who was still born. Rosemary felt that there was a lack of support and resources for bereaved parents and thus she established New Zealand's first support group meeting in Palmerston North. Rosemary further published a booklet named S.A.N.D.S: a caring guide for Parents of Stillborn Babies and Babies that die shortly after birth. This publication formed the beginnings of our Sands Support Packs.

In 2012 Sands New Zealand has 35 groups, the length and breadth of the country, and several hundred volunteers (we have no central funding at all). Sands

NZ is currently operating out of a private home in Counties Manakau, and we are about to move out of one of our volunteers home and into an office. This is exciting news for us, as this office enables us to better centralise our protocols and our applications for grants and funding, create basic support packs for bereaved families in **any** location, and coordinate training for both Sands volunteers and the DHB's in which we work.

It is worth mentioning that Sands NZ supports families for **all pregnancy, baby and infant loss,** not just the parameters recognised by central government organisations. This results in our volunteers working with almost twice as many families as recorded by the PMMRC, and other groups. The true value of Sands NZ though, will always remain with our members supporting NZ families in their time of grief, and the "family facing time" that we do.

This is a time of change for our organisation, driven by the growth of the group, and the hard work underway (by the Board) from those looking into our National presence and image. The true value of Sands NZ though, will always remain with our members supporting NZ families in their time of grief, and the "family facing time" that we do.

For further information about Sands NZ see www.sands.org.nz or check out our Facebook page.

Linda Penlington, Sands NZ and PMMRC

PMMRC Perinatal Rapid Reporting Forms

The data collection forms used by the PMMRC are revised and improved on an annual basis. The PMMRC Rapid Reporting Forms and website for collecting data on perinatal mortality was updated in January 2012. Please continue to enter the forms online but if you are completing paper forms, could you ensure you are using the January 2012 version. These are available from your PMMRC Local Coordinator or the PMMRC National Coordinator.

If you have any technical difficulty with entering an online form please contact the Mortality Review Data Group immediately on 03 470 3807 (during work hours) or by email to mortality.group@otago.ac.nz (out of work hours)

If you have any questions about data collection for perinatal or maternal death, Australasian Maternity Outcomes Surveillance System (AMOSS) or Neonatal Encephalopathy (NE) please do not hesitate to contact the National PMMRC Coordinator, Vicki Masson - v.masson@auckland.ac.nz

Health Quality and Safety Commission

The Health Quality & Safety Commission (HQSC) was established to implement the Government's aim of safer health services for all New Zealanders. The Commission works with clinicians, health providers and consumers to improve the quality and safety of services.

The focus is on learning from mistakes so they do not happen to others, and putting in place systems and processes to ensure the safest and highest quality care.
To find out more about the Commission visit www.hqsc.govt.nz.

Contact details

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HEALTH QUALITY & SAFETY COMMISSION NEW ZEALAND
Kupu Taurangi Hauora o Aotearoa

Recent Publications

PMMRC 6th Annual Report
The full report can be found on the PMMRC website:
http://www.hqsc.govt.nz/our-programmes/mrc/pmmrc

Improving quality and safety in maternity services: can we improve prevention, detection and management of congenital abnormalities in pregnancy? PMMRC national coordination services for The Quality and Safety Challenge 2012
http://www.hqsc.govt.nz/assets/Other-Topics/QS-challenge-reports/Detecting-abnormalities-earlier-in-pregnancy-Final-Report.pdf

Born Too Soon: The Global Action Report on Preterm Birth March of Dimes, PMNCH, Save the Children, World Health Organization. Geneva, 2012.
http://www.who.int/pmnch/media/news/2012/201204_borntoosoon-report.pdf

Australasian Maternity Outcomes Surveillance System ANNUAL REPORT 2010–2011. August 2012
http://www.amoss.co.nz/docs/AMOSS%20Annual%20Report%202010-2011.pdf

Protect your Unborn Baby Poster: Seat belts in pregnancy
http://www.hqsc.govt.nz/assets/PMMRC/Resources/Pregnancy-Seatbelt-A2-Poster.pdf

Serious and Sentinel Event Report 2011/12: Making our Hospitals Safer http://www.hqsc.govt.nz/our-programmes/reportable-events/publications-and-resources/publication/695/

Scottish Perinatal and Infant Mortality and Morbidity Report 2010: January 2012
http://www.isdscotland.org/Health-Topics/Maternity-and-Births/Publications/2012-01-31/2012-01-31-spimmr2010-report.pdf

Saving Mothers 2008-2010: Fifth report on the confidential enquiries into maternal deaths in South Africa. Published 2012
http://www.hst.org.za/sites/default/files/savingmothersshort.pdf

AMOSS Newsletter: No 15 September 2012
http://www.amoss.co.nz/newsletters/Newsletter_15_Sept2012.pdf

Upcoming conferences and workshops

PSANZ Annual Congress 2013 (14 - 17 April)
17th Annual Congress
'Controversies in Perinatal Care'
Adelaide, South Australia

PMMRC Annual Workshop
"Working towards ….. **Safer Beginnings"**
12 June 2013 Te Papa, Wellington

Perioperative Mortality Review Committee Inaugural Workshop
13 June 2013 Te Papa, Wellington

The 27th International Paediatric Association (IPA) Congress of Paediatrics, Melbourne, Australia 2013
Date: August 24-29, 2013 Melbourne, Australia.
www.racp.edu.au

Paediatric Society of New Zealand 65th Annual Scientific Meeting
20-22 November 2013 Dunedin
"Chill out down south."